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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,405	04/14/2005	Ralf Heinrich Bode	821923-1030	5861

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EXAMINER
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WEINSTEIN, LEONARD J

ART UNIT	PAPER NUMBER
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3746

MAIL DATE	DELIVERY MODE
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01/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/531,405

Applicant(s)

BODE ET AL.

Examiner

Leonard J. Weinstein

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This office action is in response to the amendment of November 14, 2007. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.
2. The examiner acknowledges claims 1 and 3-12 have been amended and claim 2 has been canceled.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-4, 7-8, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kullik DE19904119 A1, heretofore referenced cited with reference to the US patent Kullik US 6,418,927. Kullik teaches all the limitations as claimed for a compressor including: **[claim 1]** a centrifugal compressor 1 for compressing a gas and an electric motor, as defined by elements 2 and 3, having a stator 3 and a rotor 2 for driving the compressor 21, the compressor 1 and the electric motor, as defined by elements 2 and 3, being accommodated in a common gastight housing 6 which is provided with a gas inlet 7 and a gas outlet 8 (col. 3 ll. 1-10), the stator 3 being accommodated in a separate stator space, as defined be the space between an outer diameter of element 2 and an inner diameter of the body surrounding element 3, which is delimited by a wall section, inner diameter of body surrounding element 3, surrounding the stator 3, of the housing 6 of the compressor unit 1, a gastight partition 9 which extends

between the stator 3 and the rotor 2 of the electric motor 1, and at least one end wall 11, which extends between the partition 9 and the housing 6 of the compressor unit 1, wherein the partition 9 extends freely between the stator 3 and the rotor 2 of the electric motor 1 and comprises a material of sufficiently high strength for it to remain clear of the stator 3 and the rotor 2 under working pressures of the gas which may occur inside the housing 6 (col. 3 ll. 11-22), wherein the high-strength material of the partition comprises a fibre-reinforced plastic (col. 3 ll. 61-64); **[claim 3]** a partition comprises an erosion-resistant layer on the rotor side (col. 3 ll. 64 - col. 4 ll. 3); **[claim 4]** a partition 9 comprises a gastight layer (col. 3 ll. 18-22); **[claim 7]** a compressor wherein a wall thickness of the partition 9 is greater at the ends than in the middle, as can be seen in figure 1 both the bottom and top distal ends of element 9 are thicker than a middle section that encompasses the lower segment of element 2; **[claim 8]** and a partition 9 and the end wall 11 are separate parts which are connected to one another in a gastight manner by means of one or more sealing rings, junction formed by flange like top section of element 9 between the top surface of element 3 and sealing ring not identified but formed over element 9 and within inner diameter of element 11.

**[Claim 12]** Kullik further teaches all the limitations a claimed for a method for a centrifugal compressor 1 for compressing a gas and an electric motor, as defined by elements 2 and 3, having a stator 3 and a rotor 2 for driving the compressor 21, the compressor 1 and the electric motor, as defined by elements 2 and 3, being accommodated in a common gastight housing 6 which is provided with a gas inlet 7 and a gas outlet 8 (col. 3 ll. 1-10), the stator 3 being accommodated in a separate stator space, as defined by the space between an outer diameter of element 2 and an inner diameter of the body surrounding element 3, which is delimited by a wall section, inner diameter of body surrounding element 3, surrounding the

stator 3, of the housing 6 of the compressor unit 1, a gastight partition 9 which extends between the stator 3 and the rotor 2 of the electric motor 1, and at least one end wall 11, which extends between the partition 9 and the housing 6 of the compressor unit 1, wherein the partition 9 extends freely between the stator 3 and the rotor 2 of the electric motor 1 and comprises a material of sufficiently high strength for it to remain clear of the stator 3 and the rotor 2 under working pressures of the gas which may occur inside the housing 6 (col. 3 ll. 11-22), wherein the high-strength material of the partition comprises a fibre-reinforced plastic (col. 3 ll. 61-64) including the step of compressing a gas with a compressor unit (col. 3 ll. 7-11).

5. Claims 1, 5, 7, 9, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunning et al. 3,951,573. Dunning teaches all the limitations as claimed for a compressor including: **[claim 1]** a centrifugal compressor 10 for compressing a gas and an electric motor 28 having a stator 29 and a rotor 14 for driving the compressor 10, the compressor 10 and the electric motor 28 being accommodated in a common gastight housing 12 (col. 2 ll. 55-58) which is provided with a gas inlet 17 and a gas outlet 25, the stator 29 being accommodated in a separate stator space, as defined by elements 30 and 16, which is delimited by a wall section 30 surrounding the stator 29, of the housing 12 of the compressor unit 10, a gastight partition 33 which extends between the stator 29 and the rotor 14 of the electric motor 28, and at least one end wall, as defined by 26 and 27, which extends between the partition 33 and the housing 12 of the compressor unit 10, wherein the partition 33 extends freely between the stator 29 and the rotor 14 of the electric motor 28 and comprises a material of sufficiently high strength for it to remain clear of the stator 29 and the rotor 14 under working pressures of the gas which may occur inside the housing 12, wherein the high-strength material of the partition comprises a fibre-reinforced plastic (col. 3 ll. 18-29); **[claim 5]** a partition 33 prises a layer of

corrosion-free metal (col. 3 ll. 18-29); **[claim 7]** a compressor 10 wherein a wall thickness of the partition 33 is greater at the ends than in the middle, as elements 26 and 27 extend from, and have a greater thickness than element 33 as shown in figure 1; **[claim 9]** a and stator space, as defined by elements 16 and 30, is provided with connections, elements 34 and 36, to a cooling unit for supplying and discharging a cooling medium.

**[Claim 12]** Dunning further teaches all the limitations as claimed for a method for a centrifugal compressor 10 for compressing a gas and an electric motor 28 having a stator 29 and a rotor 14 for driving the compressor 10, the compressor 10 and the electric motor 28 being accommodated in a common gastight housing 12 (col. 2 ll. 55-58) which is provided with a gas inlet 17 and a gas outlet 25, the stator 29 being accommodated in a separate stator space, as defined by elements 30 and 16, which is delimited by a wall section 30 surrounding the stator 29, of the housing 12 of the compressor unit 10, a gastight partition 33 which extends between the stator 29 and the rotor 14 of the electric motor 28, and at least one end wall, as defined by 26 and 27, which extends between the partition 33 and the housing 12 of the compressor unit 10, wherein the partition 33 extends freely between the stator 29 and the rotor 14 of the electric motor 28 and comprises a material of sufficiently high strength for it to remain clear of the stator 29 and the rotor 14 under working pressures of the gas which may occur inside the housing 12, wherein the high-strength material of the partition comprises a fibre-reinforced plastic (col. 3 ll. 18-29) including the step of compressing a gas with a compressor unit (col. 2 ll. 66-67).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kullik DE19904119 A1, heretofore cited with reference to the US patent Kullik US 6,418,927. Kullik discloses the claimed invention except for a partition formed with polyaryl ether ketone. It would have been obvious to one having ordinary skill in the art at the time the invention was made to a partition formed with polyaryl ether ketone in order to have a compressor provided with a partition between a stator and a rotor. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunning 3,951,573. Dunning discloses the claimed invention except for a partition formed with polyaryl ether ketone. It would have been obvious to one having ordinary skill in the art at the time the invention was made to a partition formed with polyaryl ether ketone in order to have a compressor provided with a partition between a stator and a rotor. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its

suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunning 3,951,573, in view of Brunet US 6,350,109. Dunning teaches all the limitations as discussed including: and a partition 33 having erosion-resistant properties, having a high strength and being gastight but fails to teach the following limitation that is taught by Brunet for a partition between a stator 111 and a rotor 4 including a partition 6 and having a separate inner layer 61 and an outer layer 6, as defined by the partition formed around the inner layer 61, with one layer 61 being of high strength and having erosion-resistant properties (Brunet col. 4 ll. 57-59), and one layer being gas tight 6. It would have been obvious to one having ordinary skill in the art at time the invention was made modify a partition to have multiple layers in order to protect rotor (Brunet col. 4 ll. 52-64).

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunning 3,951,573 i.v. Brunet US 6,350,109, and further in view of Lee et al. Dunning teaches the product as claimed for a centrifugal compressor 10 for compressing a gas and an electric motor 28 having a stator 29 and a rotor 14 for driving the compressor 10, the compressor 10 and the electric motor 28 being accommodated in a common gastight housing 12 (col. 2 ll. 55-58) which is provided with a gas inlet 17 and a gas outlet 25, the stator 29 being accommodated in a separate stator space, as defined by elements 30 and 16, which is delimited by a wall section 30 surrounding the stator 29, of the housing 12 of the compressor unit 10, a gastight partition 33 which extends between the stator 29 and the rotor 14 of the electric motor 28, and at least one end wall, as defined by 26 and 27, which extends between the partition 33 and the housing 12 of the compressor unit 10, wherein the partition 33 extends freely between the stator 29



and the rotor 14 of the electric motor 28 and comprises a material of sufficiently high strength for it to remain clear of the stator 29 and the rotor 14 under working pressures of the gas which may occur inside the housing 12, wherein the high-strength material of the partition comprises a fibre-reinforced plastic (col. 3 ll. 18-29). A combination with Brunet as discussed a partition between a stator 111 and a rotor 4 including a partition 6 and having a separate inner layer 61 and an outer layer 6, as defined by the partition formed around the inner layer 61, with one layer 61 being of high strength and having erosion-resistant properties (Brunet col. 4 ll. 57-59), and one layer being gas tight 6.

A combination of Dunning and Brunet would be obvious but the combination would fail to teach a method of producing a partition that is taught by Lee including: producing the inner layer 112 and outer layer 130 separately, in the form of an inner shell 112 and an outer shell, the external diameter of the inner shell, under the same pressure and temperature, being larger than the internal diameter of the outer shell 130, temporarily increasing the diameter of the outer shell by means of gas or liquid pressure, or temporarily reducing the diameter of the inner shell by lowering the temperature of the inner shell , so that it is possible to push the inner shell into the outer shell; and restoring the diameter of the outer or inner shell by restoring the pressure of the outer shell or restoring the temperature of the inner shell, (col. 4 ll. 52-65). It would have been obvious to form a partition by forming composite layers separately in order to provide an inner layer with a high strength and outer layer high modulus (Lee – col. 2 ll. 34-35).

### ***Response to Arguments***

12. Applicant's arguments, see pg. 5-7, filed November 14, 2007, with respect to the rejection(s) of claim(s) 1,7, and 9 under 102(a) have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kullik DE19904119 A1 and Dunning 3,951,573.

**Conclusion**

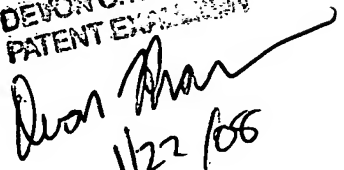
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. Weinstein whose telephone number is (571) 272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Karmer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
LJW

DEVON C. KARMER  
PATENT EXAMINER

  
1/22/06